

Appln. Serial No. 10/698,395
Amendment Dated August 6, 2009
Reply to Office Action Mailed May 6, 2009

REMARKS

Claims 1-29 are pending.

In the Office Action dated May 6, 2009, claims 1-4, 6-7, 9-15, and 26-28 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,909,707 (Rotstein) in view of U.S. Patent Publication No. 2004/0102203 (Tirola); claims 16 and 17 were rejected under 35 U.S.C. § 103(a) as unpatentable over Rotstein in view of Tirola and further in view of U.S. Patent No. 6,330,460 (Wong); claims 5, 8 and 29 were rejected under 35 U.S.C. § 103(a) as unpatentable over Rotstein in view of Tirola, and further in view of U.S. Patent No. 6,922,435 (Neufeld); claims 18 and 21-24 were rejected under 35 U.S.C. § 103(a) as unpatentable over Rotstein in view of Tirola, and further in view of U.S. Patent No. 6,795,424 (Kapoor); claims 19 and 20 were rejected under 35 U.S.C. § 103(a) as unpatentable over Rotstein in view of Tirola and Kapoor, and further in view of U.S. Patent No. 6,463,303 (Zhao); and claim 25 was rejected under 35 U.S.C. § 103(a) as unpatentable over Rotstein in view of Tirola, and further in view of U.S. Patent Application Publication No. 2003/0022635 (Benning).

It is respectfully submitted that claim 1 is non-obvious over Rotstein in view of Tirola.

To make a determination under 35 U.S.C. § 103, several basic factual inquiries must be performed, including determining the scope and content of the prior art, and ascertaining the differences between the prior art and the claims at issue. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459 (1965). Moreover, as held by the U.S. Supreme Court, it is important to identify a reason that would have prompted a person of ordinary skill in the art to combine reference teachings in the manner that the claimed invention does. *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007).

The Office Action conceded that Rotstein fails to disclose the following element of claim 1:

for each antenna, a respective signal generator to generate a respective signal comprising a common overhead component common to all the signals, using a spreading code common to all signal generators;

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5/6/2009 Office Action at 3. However, the Office Action alleged that Tirola discloses the claimed subject matter missing from Rotstein. *Id.*

Specifically, the Office Action cited the following passages of Tirola as purportedly disclosing the foregoing claimed subject matter: ¶ [0004], ln. 4-8; ¶ [0046], ln. 1-5. The cited passage in ¶ [0004] of Tirola refers to broadcasting a primary common pilot channel (P-CPICH) in an entire cell or sector, using a multi-beam arrangement having multiple beams per sector. The cited passage in ¶ [0046] of Tirola refers to broadcasting the P-CPICH over an entire sector in a multi-sector arrangement. As shown in Fig. 1 of Tirola, a beam 118 is used for transmitting the primary common pilot channel (P-CPICH) in a sector. Tirola, ¶ [0037]. Note that the beam 118 is separate from the other beams 116 and 120 shown in Fig. 1. Thus, it is apparent that in Tirola, the P-CPICH that is broadcast is a “strong-powered pilot channel that is available to all mobile stations,” where P-CPICH is broadcast over a wide beam 118 as depicted in Fig. 1 of Tirola.

Therefore, it is clear that Tirola would not have provided any teaching or hint of using a spreading code with a mutual micro-timing offset that is large enough that destructive cancellation substantially does not occur between the **common overhead components transmitted on overlapping beams**. Stated differently, since Tirola broadcasts its high-powered primary common pilot channel (P-CPICH) in a wide beam 118, the issues of destructive cancellation of common overhead components in overlapping beams is non-existent.

In view of the foregoing, even if Rotstein and Tirola could be hypothetically combined, the hypothetical combination of references would not have led to the claimed subject matter.

Moreover, no reason existed that would have prompted a person of ordinary skill in the art to combine Rotstein and Tirola to achieve the claimed invention. In Rotstein, different PN offsets are used to define different adjacent sectors within a cell. In Fig. 3 of Rotstein, four distinct PN offsets (A, B, C, D) are used, with the same PN offset reused in sectors that are spatially separated by 120°. Rotstein, 2:44-49. According to Rotstein, by assigning different PN offsets to neighboring sectors, interference between **distinct** pilot channels in corresponding **distinct** sectors is reduced, which would result in reduced pilot pollution. Rotstein, 1:26-28; 40-43; 2:60-62. Thus, Rotstein is concerned with reducing the problem of **different** pilot channels in different corresponding sectors of a cell interfering with each other. Significantly, it

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is noted that the teaching in Rotstein of distinct pilot channels in distinct sectors is quite different from what is recited in claim 1, namely that a common overhead component is common to all signals generated by respective signal generators that are transmitted by antennas.

Thus, the teachings of Rotstein are completely irrelevant to the teachings of Tirola, which concern broadcasting signals in multiple beams of the sector. A person of ordinary skill in the art would not have been prompted to combine the teachings of Rotstein and Tirola to achieve the claimed subject matter.

Moreover, Rotstein would have led a person of ordinary skill in the art to a solution in which distinct pilot channels in distinct sectors are communicated using different PN offsets to avoid pilot channel pollution, which is inconsistent with providing a common overhead component common to all signals, as recited in claim 1.

In view of the foregoing, it is clear that a person of ordinary skill in the art would have found no reason to combine the teachings of Rotstein and Tirola to achieve the claimed subject matter. Therefore, the obviousness rejection of claim 1 over Rotstein and Tirola is clearly defective.

Independent claim 26 is similarly non-obvious over Rotstein and Tirola.

Dependent claims are allowable for at least the same reasons as corresponding independent claims.

Moreover, in view of the allowability of base claims, it is respectfully submitted that the obviousness rejections of dependent claims over Rotstein, Tirola, and other references have also been overcome.

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In view of the foregoing, allowance of all claims is respectfully requested. The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 14-1315 (15658ROUS02U).

Respectfully submitted,

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